



NAVAL MEDICAL

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DoD LAB DAY

NAVY MEDICINE WEST VISITS NHRC TO DISCUSS READINESS THROUGH RESEARCH (COVER)

From Naval Medical Research Center Public Affairs

SAN DIEGO – Rear Adm. Paul D. Pearigen, commander, Navy Medicine West (NMW), and chief of the Navy Medical Corps, paid an official visit to the Naval Health Research Center (NHRC) June 2, to learn more about the command's medical research initiatives.

"I am incredibly pleased that Navy Medicine West has the research and development enterprise on our side and to be an advocate for what you do," said Pearigen. "I have a tremendous amount of respect and excitement for the work you do, which is both challenging and important."



Navy Medicine's research laboratories align under the leadership of NMW. One goal of Pearigen's visit was to learn more about NHRC's research portfolio and discuss current challenges and future opportunities for conducting research that bolsters fleet readiness.

"I see my job as supporting you and making sure we stay aligned with both Navy Medicine's and the Defense Health Agency's goals for preserving resources and enabling efficient research activities," said Pearigen.

In addition to discussing strategic alignment with the military medicine, Pearigen and NHRC leadership focused on how the NHRC's current research projects align with fleet requirements to support a healthy, fit, and medically ready fighting force.

"We had an excellent discussion with Admiral Pearigen," said Capt. Rita Simmons, NHRC's commanding officer. "As a lab commander, ensuring NHRC's research aligns with the bigger picture, with the needs of our warfighters and line leaders, is one of my priorities. We've spent a lot of time over the past several months taking a deep look into our research portfolios to ensure everything we do aligns with the overarching goals of military medicine and operational needs. We are continually evaluating our research priorities and asking ourselves, is this project or product operationally relevant? After all, readiness is the reason we exist."

NHRC has three core research areas—operational readiness and health, military population health, and operational infectious diseases—that target one primary outcome—readiness.

"From optimizing human performance, physically and psychologically, to protecting against infectious diseases that threaten troop health, NHRC is committed to delivering high quality, value-based research that ensures our service members are ready for their mission now and for the battlespace of the future," said Simmons....(cont.)

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NMRC PARTICIPATES IN SECOND BIENNIAL DEPARTMENT OF DEFENSE LAB DAY (FEATURE)

From Doris Ryan, Naval Medical Research Center PAO

SILVER SPRING, Md. –A team from the Naval Medical Research Center (NMRC) participated in the second biennial Department of Defense (DoD) Lab Day, along with others from the Navy, Army, and Air Force at the Pentagon, May 18, 2017.

Mary J. Miller, Acting Assistant Secretary of Defense for Research and Engineering, hosted the event. Miller said such widespread representation demonstrates the complexity and diversity of the DoD lab enterprise. The 2017 DoD Lab Day event highlighted more than 80 exhibits by the defense laboratory enterprise – a network of 63 defense laboratories, warfare centers, and engineering enters – throughout the United States.



"The Department of Defense Lab Day provided an outstanding opportunity for the Naval Medical Research Center to highlight the great programs and accomplishments we have made to contribute to the readiness of our warfighters. A tremendous amount of work occurs behind the scenes to support and conduct our research and it is fantastic to be able to use a forum such as this to showcase our success," said Lt. Cmdr. Michael G. Prouty, Deputy Director, NMRC Field Laboratory Operations.

Presenting biomedical research products in the joint services' medical tent, NMRC showcased the mobile laboratory and highlighted examples of on-going research and products including spray-dried plasma, pneumatic tourniquets, scrub typhus diagnostics, a noise reducing stethoscope, enhanced candidate malaria vaccine vial samples, and from the Naval Submarine Medical Research Laboratory (NSMRL) in Groton, Connecticut, a hearing health instructional app.

"Event opportunities like this really open the doors for NMRC to talk to individuals about all of the exciting science being conducted within the Research and Development enterprise," said Thomas Dunn, NMRC Advanced Medical Development (AMD) Program, Deputy Assistant, Program Manager.

The NMRC mobile laboratory allows military personal to quickly conduct confirmatory assays to determine whether biological agents are present in the field and other austere locations. The lab weighs nearly 1,000 pounds and only needs three people to operate. It holds supplies sufficient to process about 150 samples using both PCR and ELISA-based testing. It also includes protective gear for personnel, a generator, a freezer, field lighting, a tent, and a field uninterruptable power supply.

The mobile laboratory team leads in the field of bio-detection – including hand-held assays, molecular diagnostics, and confirmatory analysis. For example, during the 2014 Ebola outbreak in West Africa, the mobile laboratory processed thousands of samples reducing the time for biological agent detection from days to hours, which was instrumental in breaking the cycle of infection and improved the health outcomes of thousands of individuals....(cont.)

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NAMRU-SA RESEARCH DENTIST COMPETES FOR IRONMAN “ALL WORLD ATHLETE” STATUS

From Naval Medical Research Unit - San Antonio Public Affairs

SAN ANTONIO – “Always trust your training,” said Lt. Noel Dickens, department head, Biomaterials and Epidemiology Department, Naval Medical Research Unit – San Antonio (NAMRU-SA). Dickens, kindly known around NAMRU-SA as ‘The Crusher’ for his indomitable spirit, recently competed in an IRONMAN Texas competition, April 22, 2017.

Dickens swam 2.4 miles, biked 112 miles, and ran 26.2 miles to finish in an impressive 11:34:28. His finishing numbers placed him in the top fifteen percent of the participants. “It is almost impossible to take on this challenge without proper training,” said Dickens.

Over the past 12 months, Dickens logged 75 hours in the pool, biked 5,000 miles, ran 1,600 miles, and burned through six pairs of running shoes to train for the competition. “Even with all your preparation, it is still a leap of faith,” said Dickens.... (cont.)

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OSSEOINTEGRATION OFFERS AMPUTEES A REVOLUTIONARY NEW OPTION IN PROSTHESIS

By. AJ Simmons, WRNMMC Command Communications

In the past few years, the work in prosthetics at Walter Reed National Military Medical Center (WRNMMC) has taken continuous steps forward. One of the most significant steps was the development of one of the first American osseointegration programs in the field.

The osseointegration program at WRNMMC, led by the work of Navy Cmdr. Jonathan Forsberg and Army Lt. Col. Kyle Potter, began its clinical trials in February of 2016 and placed its first compress-based, osseointegrated prosthesis in May of 2016.

“In the simplest terms, osseointegration refers to the direct skeletal attachment of a prosthesis,” explained Potter. “So we’re putting an implant into the bone and bringing it out through the skin.”...(cont.)



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NMRC PARTICIPATED IN THE NATO COMEDS VISIT TO THE NATIONAL CAPITAL REGION

By Doris Ryan, Naval Medical Research Center Public Affairs



SILVER SPRING, Md. – Researchers and representatives from the Naval Medical Research Center (NMRC) highlighted current projects and products during the NATO Committee of the Chiefs of Military Medical Services (COMEDS) visit. Ft. Detrick in Frederick, Maryland, hosted COMEDS, as part of a three day visit to the Washington, D.C. area. The Ft. Detrick day included tours and medical displays from the Navy, Army and Air Force, June 1.

In the military medical display area, COMEDS attendees had the opportunity to view the NMRC mobile laboratory and speak to the staff members about the lab’s function and capabilities. The NMRC mobile laboratory allows for the rapid deployment of military personnel to the field and other austere locations to quickly conduct confirmatory assays to determine whether biological agents are present. A mobile laboratory weighs approximately 1,000 pounds and only needs three people to operate. It holds supplies sufficient to process about 150 samples using both PCR and ELISA-based testing. It also includes protective gear for personnel, a generator, a freezer, field lighting and a tent, making it a standalone capability.

Researchers from the NMRC Operational and Undersea Medicine Directorate presented posters highlighting studies focusing on interventions to improve performance and reduce injury in deployed personnel in undersea occupations. The group also presented information related to the physiologic and pulmonary changes during aeromedical evacuation and enroute care.

NMRC’s Advanced Medical Development (AMD) Program Office provided a hands-on display of a mobile oxygen ventilation and suction capability that provides a completely integrated intensive care unit suitable for expeditionary use. In addition, AMD displayed examples of products in various stages of development including an enhanced *Plasmodium falciparum* sporozoite malaria vaccine vial, a fatigue-based countermeasures software tool, and a solvent detergent spray-dried plasma product as well as a noise reducing stethoscope and pneumatic tourniquet.

The ADM Program Office manages and coordinates the business and scientific research of advanced biomedical equipment and their development through the project life cycle.

According to the NATO web site, COMEDS, created in 1994, is NATO’s senior body on military health matters. The committee works to improve coordination, standardization and interoperability in the medical field and supports the exchange of information between NATO and partner countries.

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NAVAL MEDICAL RESEARCH CENTER HOLDS RETIREMENT CEREMONY FOR EXECUTIVE OFFICER

From Naval Medical Research Center Public Affairs

SILVER SPRING, Md. – The Naval Medical Research Center (NMRC) held a retirement ceremony for Capt. Eric R. Hall, Executive Officer, after 23 years of faithful Navy service. May 25, 2017.

The U.S. Navy retirement ceremony is regarded as the nation's expression of appreciation for a job well done, a sincere official recognition of a long period of faithful and honorable service, and is a way of rewarding the end of a career within the Navy.

"I had a life-long mentor, Dr. Bill Falker Jr., tell me 'Remember, life is not a dress rehearsal, I am finding that transitioning out of the Navy and the Research and

Development enterprise is not so easy when you love what you do, people believe in you, and you love the people you work with," said Hall. Hall personally thanked every mentor who has helped him along his way during his retirement ceremony speech.

With multiple accomplishments under his belt, Hall's personal awards include the meritorious Service Medal, the Navy and Marine Corps Commendation Medal, and the Navy and Marine Corps Achievement Medal. He was also awarded the Humanitarian Service Medal for his assistance in relief operations immediately after the August 2007 earthquake in Peru.

The ceremony, presided over by Capt. Mark Riddle, NMRC, was attended by many members of the Research and Development enterprise (R&D enterprise), including individuals who helped Hall along his path. Capt. (retired) Lou Bourgeois gave a special presentation highlighting Hall's accomplishments.

Hall, a native of Stewartstown, Pennsylvania, received his Bachelors of Science in Biology from Shippensburg State College, Shippensburg, Pennsylvania in 1982. He continued on to receive his Ph.D. in microbiology from the University of Maryland, School of Dentistry in 1988. He completed two post-doctoral fellowships at the Medical College of Virginia, Richmond, Virginia, and the Henry M. Jackson Foundation, Rockville, Maryland.

Commissioned as a United States Navy Lieutenant in the Navy Medical Service Corps in 1994, his first duty assignment was the U.S. Naval Medical Research Unit No. 3 in Cairo, Egypt, where he served as the Rapid Diagnostics Branch Head. After transferring to the Naval Medical Research Institute in Bethesda, Maryland, in 1998, he served as the Enteric Diseases Immunology Branch Head, and subsequently at the Deputy Head of the Enteric Diseases Department at NMRC.

Hall spent time assigned to the U.S. Naval Medical Research Unit No. 6 – Peru (NAMRU-6), where he served as the Head of the Bacteriology Program. Hall established international collaborations in multiple Latin American Countries essential to the U.S. Southern Command's mission to promote public health security cooperation. As "plank owner" and the Chairman of the Institutional Review Board (IRB), Hall established NAMRU-6 as the South American leader in research ethics....(cont.)

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R&D CHRONICLES: GIVE ME (FALLOUT) SHELTER: THE NAVY'S PROTECTIVE SHELTER STUDY

By André B. Sobocinski, Historian, BUMED

"It was a funny feeling knowing that we would be in there for over a week."

~Unnamed Research Subject, Bethesda Protective Shelter Study, March 1961

On the Walter Reed National Military Medical Center campus in Bethesda, Maryland, there is a relic from the Cold War that few people have ever seen. Constructed six feet below the surface this fallout shelter is a palpable reminder of the nation's fear of nuclear attack. In 1962, it would also be the setting for a unique study on confinement and habitability.

In the early 1960s, as tensions grew between the U.S. and the Soviet Union, President Kennedy publicly advocated for the construction of community shelters leading to what some have called a "fallout shelter craze."

Overseeing the nationwide fallout shelter program was the Department of Defense's newest component, the Civil Defense Office (CDO). Established in 1961, the CDO's mission was to prepare the public in case of nuclear fallout. In conjunction with the Army's Corps of Engineers and the Navy's Bureau of Yards and Docks (later known as Navy Facilities Command), the



CDO surveyed existing public shelters, ensuring they were up to standards, stocking them with requisite food and supplies, and marking them with those ever-distinctive yellow and black signs. In 1962 alone, the CDO procured 1.4 million of these aluminum fallout shelter signs.

As part of this effort of preparedness, in January 1962 the Bureau of Yards and Docks constructed an "experimental" shelter on what was then the home of the National Naval Medical Center (NNMC) and the Naval Medical Research Institute (NMRI) in Bethesda, Maryland. Measuring 25 feet wide x 48 feet long x 12 feet high, this shelter was in essence an underground Quonset hut covered in 10-gauge galvanized corrugated steel and reinforced by concrete. It was designed to withstand a blast of 75 psi (pounds per square inch), and be resistant to fire, radiation and radioactive fallout....(cont.)

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NAVY CORE VALUES AND GRIT IN ACTION – A TREK TO MT. EVEREST BASE CAMP

From Lt. J. Regeimbal, U.S. Naval Medical Research Unit No. 6 Public Affairs



LIMA, PERU – Hospital Corpsman First Class Logan Ortlieb from the U.S. Naval Medical Research Unit No. 6 – Peru (NAMRU-6) trekked to the base camp of one of the tallest mountains in the world – Mt. Everest, March 2017. “I am always looking for something to push me out of my comfort zone and push me to be a better person; climbing at 18,000 feet is great way to test your mental strength,” said Ortlieb.

After 36 hours of travel, Ortlieb and his eight trekking companions from all over the world, including people from England, Brazil, Norway, New Zealand and the U.S. arrived in Lukla, Nepal, where they began their 13-day journey to reach Mt. Everest base camp.

“After landing in Lukla, I remember the feeling I had when I saw my first 6000 meter mountain in the Himalayas. That was the moment I knew it was game time and there was no turning back,” said Ortlieb.

Through mountains, trees, villages and more, Ortlieb and his group made a total trek over 77 miles in extreme conditions, such as high altitude, low oxygen levels, and extreme temperature changes.

“This is often the first true test of an individual’s will before he or she attempts to summit Everest,” said Ortlieb.

The group traveled an average of seven hours a day, gaining between 500 to 1000 meters in elevation with each passing day. Acclimatization rest days are important when it comes to trekking a mountain like Everest. Due to the high elevation and low oxygen levels, the body needs time to acclimatize and recuperate in order to avoid acute mountain sickness, which can have fatal consequences.

Ortlieb and his group spent acclimatization rest days in Namche Bazaar, a small village in Nepal, as well as Tengboche, a small village in Khumjung located in the Khumbu region of northeastern Nepal. Tengboche is home to a Buddhist monastery, Tengboche Monastery, Ortlieb experienced the local way of life, and had the opportunity to meditate with monks at the monastery....(cont.)

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